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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,080	12/22/2000	Chieko Aoki	0229-0629P	6967

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EXAMINER

KNABLE, GEOFFREY L

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

CLO-10

Office Action Summary

Application No.

09/742,080

Applicant(s)

AOKI ET AL.

Examiner

Geoffrey L. Knable

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,9-12 and 16-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,9-12 and 16-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 13, 2003 has been entered.

2. Claims 1, 9-12, 16, 18, 21 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 1, the foamable liquid is described as an emulsion of "at least one kind of elastomer". Although "elastomer or elastomers" are explicitly described in the context of the "Liquid noise damper 2 (emulsion)," this is not clearly described in the context of "Liquid noise damper 3 (Foamy solution)" embodiment to which the claims are now restricted. Further, although mention is made of "rubber latex" in the context of the foamy solution embodiment, this is followed by its own list of materials which does not describe "an emulsion of at least one kind of elastomer" as in claim 1. It therefore is considered that this is subject matter was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, i.e. it is considered to be new matter.

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In claims 16 and 18, new reference is made to "butyl rubber" whereas no descriptive support is present for such in the original disclosure, such being therefore new matter. It appears that applicant is relying upon the original recitation of "BR" - this however would have been read as the common abbreviation for "butadiene rubber," not butyl rubber (whose abbreviation is commonly IIR).

Also in reference to claims 16 and 18, as with claim 1, it is not entirely clear that original descriptive support exists for describing the elastomer as being one of these specifically named elastomers as these are only explicitly described in the context of the "Liquid noise damper 2 (emulsion)" and not clearly in the context of "Liquid noise damper 3 (Foamy solution)" embodiment to which the claims are restricted. Although mention is made of rubber latex in the context of the foamy solution embodiment, this is followed by its own list of materials which do not include the materials of claims 16 and 18. It therefore is considered that this is subject matter was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, i.e. it is considered to be new matter.

In new claims 21 and 22, the reference to "at least one" of the following materials is not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, i.e. it is considered to be new matter.

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3. Claims 1, 9-12 and 16-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of the independent claims define a foamed to unfoamed ratio - it however is not clear if this is requiring that the claim actually require that the claimed system be in a foamed state or rather that it simply be foamable to this level. Clarification is required, the claim seemingly requiring that this level of foam be actually present - this however would seem to be typically only present when the tire is in use - clarification of the scope of these claims in this regard is therefore required.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 9-12, 16-18 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 753420 to Gerresheim et al.

Gerresheim et al. disclose a tire mounted on a rim to which can be added a rubber latex material. This composition can be further thinned with water and can further include "dispersants, emulsifying agents, foam stabilizers" (page 3, lines 9-10) and is described as a liquid (e.g. page 3, lines 25-29). Insofar as this material is a liquid rubber latex or emulsion, it being apparent that applicant also suitably uses a rubber latex, and can in particular also include emulsifying agents as well as foam stabilizers, it is submitted to have been a reasonable expectation that this material is a foamable liquid emulsion of an elastomer as claimed. As to the relative volume of the material, the reference does not provide a specific teaching of how the volume of the sealant

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relates to the tire volume. It however would have been readily apparent to the artisan that a not insignificant amount would have been necessary to appropriately provide the desired sealing for a tire, it being considered that such would reasonably have suggested amounts greater than the claimed very low lower limit of 0.001 times the tire volume as claimed. In other words, it is submitted that the artisan would have found it obvious to include greater than 0.001 times the tire volume as smaller amounts would be seen as insufficient to provide the desired sealing effect around the entire tire. As to the foam volume, as already noted, it is not entirely clear whether this is an actual requirement of the system or simply a capability of the material. In any event, the claimed very wide range for relative foam volume is considered to have been expected to encompass the foaming capability of most foamable materials including those of the reference, it further being also again noted that this reference also discloses rubber latexes, these being described as suitable and effective by applicant, this further indicating that such would reasonably be expected to meet these claimed requirements.

Although the reference does not indicate whether the material is capable of irregularly changing the area as claimed, being a flowable and foamable liquid at what are considered to have been amounts consistent with that claimed, it is submitted that reasonable basis exists to expect that this material would be capable of irregularly changing the area with rotation (at least at some rotational speeds) as claimed so as to teach or render obvious what is presently claimed, the burden properly shifting to applicant to show or establish that the teaching of this reference would not teach or render obvious a tire/rim system that meets the present claims.

As to dependent claims 9-12, such would have been obvious for the same reasoning set forth in the prior office actions where EP '420 to Gerresheim was used as exemplary.

6. Claims 19, 20, 21 and 22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hicks (US 2,797,721 - previously applied; now applied again in light of the new claims).

Hicks discloses a tire including 35-90% (col. 5, lines 25-31) of a liquid tire ballast within the tire interior chamber (a rim being obviously present). Further, the ballast is in most cases predominantly water (e.g. col. 5, lines 7-8) and further is explicitly described as forming a "frothy liquid" in use (e.g. col. 5, lines 10-19), this being considered to suggest a foamy or foamable material as claimed. As to the requirement for surfactant and stabilizers, note that the reference suggests stabilizers as well as soaps (which as is well known are surfactants) - note col. 5, lines 31-37. As to the relative volume of the material, note again that the filling range of 35-90% is inclusive of values within the claimed range. As to the foam volume, as already noted, it is not entirely clear whether this is an actual requirement of the system or simply a capability of the material. In any event, since the frothy liquid apparently fills the entire cavity, foaming ratios as claimed are considered to have been taught (e.g. for a 50% fill, if the foam fills the tire, the ratio will be 2). It is also noted that the claimed very wide range for relative foam volume is considered to have been expected to encompass the foaming capability of most foamable materials. Although the reference does not indicate whether the material is capable of irregularly changing the area as claimed, being a flowable and foamable

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liquid at amounts and ratios consistent with that claimed, it is submitted that reasonable basis exists to expect that this material would be capable of irregularly changing the area with rotation (*at least at some rotational speeds - e.g. even if the claim were read to define over complete filling of the cavity with the foam, the Hicks tires will certainly not completely foam at low speeds or on startup*) as claimed so as to teach or render obvious what is presently claimed, the burden properly shifting to applicant to show or establish that the teaching of this reference would not teach or render obvious a tire/rim system that meets the present claims.

As to claims 21 and 22, as already noted, Hicks discloses use of stabilizers and further would suggest proteins - e.g. note the reference to "animal glue" (col. 5, lines 5-10) as well as what are considered hydrophilic macromolecular substances - note the references to "carboxymethylcellulose" (e.g. col. 3, lines 65-70), cornstarch (e.g. col. 4, lines 45-48) and Kelgin (col. 5, lines 34-37). Such is therefore considered to suggest the claimed materials. Further, even if it were deemed that the specific proteins were not explicitly taught (although it is submitted that the animal glue would meet the claims), the reference clearly suggests this class of materials, the claimed materials being considered to have been known, conventional and obvious stabilizers.

7. Claims 27-30 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks (US 2,797,721) as applied to claims 19 and 20 above, and further in view of EP 753420 to Gerresheim et al.

As to the noted dependent claims, EP '420 is applied for the same reasons as already of record with respect to corresponding claims 9-14. In particular, Hicks does

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not indicate how the liquids are to be introduced into the tire. It however is considered that the ordinary artisan would have been able to select an appropriate means to introduce the liquid materials into the tires, it being further noted that utilizing a pressure source in combination with a container for the material is a well known, conventional and obvious way to introduce a liquid material into a tire – EP '420 is merely exemplary (e.g. note figs. 1-2).

8. Applicant's arguments have been considered but are essentially moot in view of the new ground(s) of rejection.

Additionally, it is noted that any potential application of the patent to Nishikawa (US 6,343,843) has been avoided with filing of the foreign priority papers along with a translation of said papers showing descriptive support for the present claims.

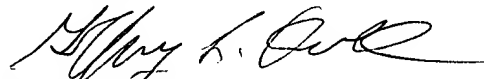
Further, rejections over the patent to Pace (US 3,361,698) have been withdrawn as although the reference does describe a mixture of elastomer and solvent in a tire cavity (e.g. col. 8, lines 10+), there is insufficient evidence to conclude that this would provide a foamable liquid emulsion as claimed. It is also noted for the record that although applicant refers to col. 3, lines 3-10 as evidence that a foam is not present, this part of the reference is believed to be describing how the polyurethane elastomer component itself of the sealant is formed and is therefore not instructive as to how the ultimate sealant, which includes this elastomer as well as solvent, etc. would react. In any event, however, again there is insufficient evidence to conclude that this would provide a foamable liquid emulsion as claimed.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 703-308-2062. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 703-308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Geoffrey L. Knable
Primary Examiner
Art Unit 1733

G. Knable
October 24, 2003